

**Amendments to the Specification:**

Please amend the specification as follows:

Please relocate the following paragraphs (beginning on page 2, line 11, paragraph [0007] and ending on page 4, paragraph [0029], line 30) and insert those paragraphs on page 8 after the title “Detailed Description of the Invention” and before paragraph [0045].

**[0007]** The inventor has recognized that the known systems are disadvantageous in terms of the following aspects:

**[0008]** i) Because of the high light intensity, very fine detail distinctions in the specimen image are not detected because of the occurrence of flare, reflections, and therefore the obliteration of visual data.

**[0009]** ii) If the reflected-in image data are viewed by a viewer directly, i.e. without the image coming from the specimen, the amount of light used is generally too great and the viewer is dazzled, or the brightness of the illumination for the reflected-in image must be readjusted manually.

**[0010]** iii) In many cases in which a control capability exists, switching between overlay mode and exclusive viewing of the reflected-in image data is implemented only via regulation of the high-intensity main specimen illumination system, which is associated with known disadvantages such as changes in color temperature in the specimen image or the reflected-in image.

**[0011]** iv) All presently known methods for controlling the light intensity of a reflected-in image use a constant intensity over the entire area of the reflected-in image data.

**[0012]** It is therefore an object of the invention to find an improvement which eliminates the aforesaid disadvantages and makes possible undisturbed, continuous viewing of the reflected-in information, independently of

**[0013]** I) whether the viewer is viewing exclusively the reflected-in image or the reflected-in image overlaid on the specimen image; and of

**[0014]** II) the brightness and contrast of the specimen image.

**[0015]** This object is achieved by

**[0016]** a) the utilization of a secondary light source (of lower intensity) for illuminating the reflected-in image data, which can be selectably used with the main light source; and/or

**[0017]** b) the use of specimen light reflections for illuminating the reflected-in image data. This invention can also be utilized independently of invention a); and/or

**[0018]** c) the use of a portion of the main light source illumination for illuminating the reflected-in image data. This invention can also be utilized independently of inventions a) and b).

**[0019]** A distinction is also made as to whether the reflected-in image data are generated by:

**[0020]** A) a transmitted-light display, for example a liquid crystal display (LCD); or

**[0021]** B) a reflective display, for example a Direct-Drive Image Light Amplifier (D-ILA<sup>TM</sup>) display.

**[0022]** In the steps below, the following improvements can therefore be achieved:

**[0023]** 1) The secondary light source allows the reflected-in image data to be adjusted as desired in terms of intensity and color.

**[0024]** 2) Because the light of the main light source reflected from the specimen is used (as in invention b) above), it is possible to regulate the brightness of the reflected-in image automatically together with the specimen image brightness.

According to one embodiment of the present invention, the brightness of the reflected-in image data can even be adapted in point fashion (pixel by pixel) as a function of the ambient brightness or contrast of the specimen image. This yields, for the first time, automatic regulation of the brightness of the reflected-in image for every portion (or pixel) of the image. At a dark point on the specimen image, for example, the reflected-in image overlaid there may appear faint.

**[0025]** 3) The use of a light amplification system for linear intensity modification over the entire reflected-in image is also possible.

**[0026]** 4) The overall result of using one of the above inventions is to eliminate flare, glare, and obliteration of the specimen image.

**[0027]** 5) Relative color temperature changes do not occur in either the specimen image or the reflected-in image, since a system for controlling the current intensity of the reflected-in image can be dispensed with.

**[0028]** 6) When the method listed under invention a) above is used, it is possible not only to adapt the brightness of the reflected-in image to the particular specimen image brightness, but also to adapt the color; for example, a color contrasting with the particular specimen image may be used for the reflected-in image.

**[0029]** Reference is made in the text above to a surgeon and to a surgical microscope and surgical field, but the invention is not limited thereto; rather it is also open to other users of optical devices with reflected-in images (e.g. projected images with additional information superimposed, video and photographic cameras, monocular and binocular applications).

Please replace, after paragraph [0052] in the section entitled "PARTS LIST" the text "19 Superimposition shutter" with "**19 Superimposition shutter (diaphragm)**".